<u>**CLAIMS**</u>

We claim:

1. A method of processing a digital image corresponding to a scanned document having corresponding image data comprising a plurality of pixel values and having an associated background, the method comprising:

    analyzing image data to obtain statistical data;

    deriving a background noise removal tonemap function for the entire image based on the statistical data;

    storing the image data and tonemap function;

    providing user selection to:

        in a first case, remove background noise from the image wherein pixel values are converted using the tonemap function prior to rendering the image; and

        in a second case, to bypass background noise removal prior to rendering.

2. The method as described in Claim 1 further comprising pre-processing image data while analyzing image data and using intermediate results obtained from pre-processing the image data to obtain statistical data.

3. The method as described in Claim 1 further comprising storing the tonemap function by generating a corresponding look-up table and storing the look-up table with the image data.

4. The method as described in Claim 1 further comprising storing the image data and the tonemap function according to a selected document format.

5. The method as described in Claim 1 wherein analyzing the image data further comprises estimating a global background tone value.

6. The method as described in Claim 5 wherein the tonemap function is derived from the global background tone value.

7. The method as described in Claim 1 further comprising providing a user interface allowing viewing of a rendering of image data dependent on the user selection.

8. The method as described in Claim 1 further comprising providing a user interface including an option allowing the selection of background noise removal on a page-by-page basis.

9. A method of processing a digital image corresponding to a scanned document having corresponding image data comprising a plurality of pixel values and having an associated background, the method comprising:

    analyzing image data to obtain statistical data;

    storing the image data and the statistical data;

    providing user selection to:

        in a first case, remove background noise from the image wherein pixel values are converted by deriving a background noise removal tonemap function from the stored statistical data; and

        in a second case, to bypass background noise removal prior to rendering.

10. The method as described in Claim 9 wherein the statistical data is a global background tone value derived from the image data.

11. The method as described in Claim 9 wherein the statistical data is at least one histogram derived from the image data.

12. The method as described in Claim 9 further comprising pre-processing image data while analyzing image data and using intermediate results obtained from pre-processing the image data to obtain statistical data.

13. The method as described in Claim 9 further comprising providing a user interface allowing viewing of a rendering of image data dependent on the user selection.

14. The method as described in Claim 9 further comprising providing a user interface including an option allowing the selection of background noise removal on a page-by-page basis.

15. A system for processing a digital image corresponding to a scanned document having corresponding image data comprising a plurality of pixel values and having an associated background, the system comprising:

statistical analyzer for analyzing image data to obtain statistical data;

function derivator for deriving a background noise removal tonemap function for the entire image based on the statistical data;

data storage for storing the image data and the tonemap function;

user interface for selecting to, in a first case, remove background noise from the image, and in a second case, to bypass background noise removal prior to rendering;

background noise remover for removing noise from image data retrieved from storage dependent upon user selection.